Grace Garlatti 7th Grade Math

**July 6, 2010**

**“Word Problems”**

**Objective(s):**

Students will be able to solve word problems that use operations with integers.

**Set Induction:**

The class will go over the homework from the night before and questions will be answered.

The teacher will ask the class if they can think of any real life situations that could require the use of the integer operations.

**Learning Activities:**

*Explanation and Examples*:

The teacher will explain that all integer operations have real life application. It is our duty as mathematicians to figure out what operation can be used to solve a problem.

The following examples will be done as a class.

1. Mary has agreed to pay John $5.00 a week to mow her lawn. If she has not paid John for 6 weeks, how much debt is Mary in?
2. The bird was flying 200 feet in the air. The mole was hiding 2 feet below ground. What is the difference between these two heights?
3. Lisa is $3,600 in debt. She owes equal amounts to the mortgage, electric bill, and water bill. How much does she owe each establishment?
4. George is exploring Antarctica. The temperature is -20 degrees below zero. If the temperature drops 12 degrees, what will the temperature be?

*Website*:

The students will use pencil and paper to solve the questions provided on <http://www.mathgoodies.com/lessons/vol5/challenge_vol5.html>. The teacher will walk about to assist with any difficulties.

*Timeline:*

*Set Induction*: 5 minutes

*Explanation and Examples*: 15 minutes

*Website*: 20 minutes

*Closure*: 5 minutes

**Closure:**

The teacher will ask the students if they believe using the computers helped or hurt them when focusing on the problem at hand.

**Assessment:**

The teacher will observe student answers during class. This will help the teacher to see where the students are struggling.

**Homework:**

The students will complete Homework Assignment #9.

**Materials:**

Paper

Pencils

Pens

<http://www.mathgoodies.com/lessons/vol5/challenge_vol5.html>

Resources:

<http://www.mathgoodies.com/lessons/vol5/challenge_vol5.html>

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7th Grade- Homework Assignment #9

**Solve the following word problems using the correct integer operation.**

1. A hiker is hiking 3,000 feet above sea level. A marine researcher is working in a submarine 2,000 feet below sea level. How far apart are the two men?
2. Jessica owes Molly $38. If both Jessica’s mother and father help her to repay her debt in equal amounts, how much will each parent need to give her?
3. When Katie was playing Jeopardy her final score was -$200. Her opponents, Steve and Ben, also ended the game with scores of -$200. What was the combined score of the three players?
4. Amy lost $30 dollars when trying to win a prize at the amusement park. She then spent another $10 on pizza and ice cream. How far in debt is Amy after her night at the amusement park?

Grace Garlatti 7th Grade Math

**July 7, 2010**

**“Word Problems and You”**

**Objective (s):**

Students will be able to create their own word problems involving the integer operations.

**Set Induction:**

The teacher will ask the students if they believe integer operations apply to real life. If they say no, she will ask them to think in terms of the word problems they worked on the previous day. If they say yes, she will ask them to give an example of a problem that would apply to their lives.

**Learning Activities:**

*Project Assignment:*

The teacher will tell the students that today they will be working in small groups to create their own, real life, integer operation problems. She will explain that they will need to come up with an addition, subtraction, multiplication, and division problem that could be applied to one or all of their lives. The class will discuss possible themes for problems that can be used.

*Working on Problems:*

After the students compose their problems, they will need to neatly write out all four problems onto a fresh sheet of paper. They will solve their problem on a separate sheet of paper. The teacher will walk about the room making sure the students are creating problems that are realistic and that they are solving the problems correctly.

*Sharing Problems:*

After the problems have been created, two groups will exchange problems and attempt to solve another group’s problems. If a group of students cannot solve one of the problems after working hard to find the answer, the problem will be posed to the entire class.

*Timeline*:

Set Induction: 5 minutes

Project Assignment: 5 minutes

Working on Problems: 15 minutes

Sharing Problems: 15 minutes

Closure: 5 minutes

**Closure:**

The class will discuss how applying integer operations to real life make solving these problems easier to understand.

**Assessment:**

The teacher will observe student answers during class and collect their homework assignments after the class has gone over them and corrected them by using a colored pen instead of pencil. This will help the teacher to see where the students are struggling.

**Homework:**

Homework Assignment #10 will be assigned.

**Materials:**

Paper

Pencils

Name:­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7th Grade- Homework Assignment #1

Create and solve an addition, subtraction, multiplication, and division integer operation problem that can be applied to your life.

Grace Garlatti 7th Grade Math

**July 8, 2010**

**“PEMDAS”**

**Objective (s):**

Students will be able to list the order in which operations should be performed (PEMDAS).

Students will be able to solve problems that require the use of PEMDAS.   
  
**Set Induction:**  
The teacher will talk to the students about acronyms such as SCUBA, ASAP, RSVP, NBA, ABC, NFL, etc.. She will then explain that PEMDAS

**Learning Activities:**   
*Acronyms, Acronyms!*: The teacher will explain that the acronym PEMDAS (parentheses, exponents, multiplication, division, subtraction) is usually remembered as “Please excuse my dear Aunt Sally.” The students will then have time to come up with their own acronym that will make the order of operations easy for them to remember. The students will share their acronyms with the rest of the class.   
  
*Order, Order!*:

The students will work with a partner to use PEMDAS to solve a problem. The students will attempt to solve the problem without teacher instruction. If a group of students is able to figure out the answer to they will help the teacher to explain the concept to the rest of the class. If no one is able to figure out the question the teacher will explain and then give the students a new problem to work on. When students get a question correct they will have to opportunity to explain their reasoning to the entire class. If students are having trouble solving the entire problem, they will be allowed to list the operations they would use to solve the problem in the order in which they would perform them.

*Timeline*:  
Set Induction: 5 minutes  
Acronyms, Acronyms!: 15 minutes  
Order, Order!: 20 minutes  
Closure: 5 minutes

**Closure:**

The teacher will assign homework and ask the class if they have any questions.

**Assessment:**

The teacher will observe student answers during class and collect their homework assignments. She will review their homework to better see where the students are struggling.

**Homework:**

The students will complete Homework Assignment #11.

**Materials:**

Pencils

Paper

Chalk

Chalkboard

Name:­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7th Grade- Homework Assignment #11

**On a separate piece of paper, design a poster using your acronym for PEMDAS. We will use your posters to decorate the classroom!**

**List the operations you would use to solve these problem in the order in which you would perform them. Then, solve the following mathematical equations.**

1. 12 x 6 / 2=
2. 14 + 7 -12=
3. 15 / 5 + 17=
4. 24 x 2 / 6=
5. 12 – 2 /2=

Grace Garlatti 7th Grade Math

**July 9, 2010**

**“Parentheses”**

**Objective (s):**  
Students will be able to solve PEMDAS problems that include parentheses.

**Set Induction:**

The teacher will ask students if they have a daily schedule that they follow. She will ask them if there is something they must always do before they are able to do something else. The teacher will then explain that parentheses are similar to the tasks that must be done first. She will explain that the operation(s) contained in the parentheses must ALWAYS be performed first.

**Learning Activities:**

Class Work:

The teacher will use the SmartBoard to project some order of operations with parentheses problems. She will guide the students through solving these problems with regular imput from the class.

Partner Time!:

Students will work with a partner on the “Parentheses!” worksheet. After they have completed this worksheet it will be reviewed as a class.

Challenge Time:

The teacher will give the class a very long order of operations problem with many parentheses. The first student who is able to solve the problem accurately will win a prize.

*Timeline*:

Set Induction: 5 minutes

Class Work: 10 minutes

Partner Time! 15 minutes

Challenge Time: 10 minutes

Closure: 5 minutes

**Closure:**

The teacher will ask the students to volunteer organizational strategies they use when solving order of operation problems. She will ask a few students to do problems in an organized fashion on the board.

**Assessment:**

The teacher will observe student answers during class and collect their homework assignments. She will review their homework to better see where the students are struggling.

**Homework:**

Friday! =)

**Materials:**

Paper

Pencils

SmartBoard

“Parentheses!” Worksheet

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PARENTHESES!

**Solve the following mathematical equations.**

|  |  |  |
| --- | --- | --- |
| 9 **÷** -3 + 5 = | -11 x (4 + -5) = | -1 - -11 + -2 = |

|  |  |  |
| --- | --- | --- |
| -5 + (2 + -3) = | 5 **÷** 1 + -2 = | -1 x 8 - 3 = |

|  |  |  |
| --- | --- | --- |
| -5 - -1 x -11 = | 1 + (6 + 4) = | 9 **÷** 1 x 8 = |

|  |  |  |
| --- | --- | --- |
| (11 + 2) - 4 = | -5 - (-2 - -10) = | 8 - 7 + 9 = |

|  |  |  |
| --- | --- | --- |
| (3 - 2) + 4 = | (-5 + -2) + -6 = | 8 x (2 + -9) = |

Grace Garlatti                                                                                                          8th Grade Math   
  
July 6, 2010  
“Reviewing One-Step and Two-Step Equations”  
  
Objective (s):  
The students will be able to solve one-step and two-step equations.   
  
Set Induction:  
The teacher will ask the class to create their own one-step and two-step equations. She will then ask the students to share their equations with the class by writing the equations on the board. Each student will guide the class through their two equations.    
  
Learning Activities:   
Computer Contest:   
The teacher will take the students to the computer lab to work with the following website, <http://www.xpmath.com/forums/arcade.php?do=play&gameid=64>. This website will generate one-step and two-step equations for the students to answer and keep count of the number of answers they get correct. The student who has the most answers correct at the end of 20 minutes will be awarded a prize.   
  
Scoring Time:   
The teacher will make her way around the room collecting each student’s score from the website. She will look at the scores and give a prize to the two students who got the highest number of equations correct.   
  
Timeline:  
Set Induction: 12 minutes   
Computer Game: 23 minutes  
Scoring Time: 5 minutes  
Closure 5 minutes  
  
Closure:  
The teacher will write a more challenging two-step equation on the board and have the students solve it.   
  
Assessment:   
The teacher will observe the students while they are working on the computers. She will also look over their homework to track their progress. The teacher will be able to see how well certain students understand one-step and two-step equations by looking at the number of problems they solve corrects on the website; she will gage whether their skill level is appropriate given the time given and the difficulty level of the questions.   
  
Homework:  
The teacher will assign Homework Assignment #8.   
  
Materials:  
Paper   
Pencils  
Computers  
Chalk  
Chalkboard

Grace Garlatti                                                                                                          8th Grade Math   
  
July 7, 2010  
“Simplifying Time”  
  
Objective (s):   
Students will be able to use everyday objects to explain the concept of combining like terms.  
  
Students will be able to combine like terms in equations.  
  
Students will be able to use the distributive property.   
  
Students will be able to simplify equations.    
  
Set Induction:  
Students will be asked to compose their own definitions of the word combination. The teacher will then play upon their answers to describe what it means to combine like terms.   
  
Learning Activities:   
Starbursts:   
Each student will be given a handful of Starbursts and asked to separate their pile by color. They will then be asked to combine their piles with the piles of a partner. The teacher will then explain the concept of like terms and relate it to the Starbursts. She will provide many examples of combining like terms equations on the board.   
  
Distributive Property:   
The teacher will give a short example of a problem that uses the distributive property. She will then show the class the following video, to reinforce what she just described, <http://www.youtube.com/watch?v=u3dexXyyb3c>.   
  
Class Work:   
The students will work in groups on a worksheet that will apply combining like terms and the distributive property to equations that need to be simplified. Each group will show their work to one or more of the questions on the board making references to the Starbursts activity and the video they previously viewed.   
  
Timeline:  
Set Induction: 5 minutes   
Starbursts: 10 minutes   
Distributive Property: 10 minutes   
Partner Work: 15 minutes   
Closure: 5 minutes   
  
Closure:  
The teacher will put an equation on the board that requires a great amount of simplifying. The first students to get the question correct will be awarded a prize.   
  
Assessment:   
The teacher will collect the homework and review it. She will travel from group to group during class work time to make sure all of the students understand the conept of simplifying equations.   
  
Homework:  
The teacher will assign Homework Assignment #9.  
  
Materials:  
Paper  
Pencils  
Starbursts  
Chalk  
Chalkboard  
Worksheet

Grace Garlatti                                                                                                          8th Grade Math   
  
July 8, 2010  
“Reviewing Simplifying Equations”  
  
Objective (s):  
The students will be able to expand equations from their simplified form.   
  
Set Induction:  
The teacher will put a simplified equation on the board. She will ask the students if there is only one possible from which that equation could have been simplified. The teacher will explain to the students that there are many possible equations that can result in the same simplified form.    
  
Learning Activities:   
Individual Work:  
The teacher will put the equation y=x-5 on the board. She will ask each student to come up with an expanded form of this problem. The students will share their answers with the class and the class will see there an infamous equations that can result in the same simplified form.    
  
Group Work:   
The students will work in pairs to expand 4 simplified equations into expanded form. The teacher will advise them to make their equations as intricate as possible.    
  
Share Time:   
Each group will share one or more of their expanded problems with the class. It will be the job of the class to determine if that equation can be simplified to the simplified equation at hand.   
  
Timeline:  
Set Induction: 5 minutes  
Individual Work: 5 minutes  
Group Work: 15 minutes  
Share Time: 15 minutes  
Closure: 5 minutes  
  
Closure:  
The teacher will give her own challenge problem to the class. She will ask the class to simplify 34(x+y)+85(2x+2y)+100(x+y).   
  
Assessment:   
The teacher will collect homework and observe student work and responses during class.   
  
Homework:  
The teacher will assign Homework Assignment #11.   
  
Materials:  
Pencils   
Paper  
Chalk  
Chalkboard

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
8th Grade: Homework Assignment #11  
  
Expand the following simplified equations. Then show your work to prove your answers.   
  
  
1.) y=4x-1  
  
  
  
  
  
  
  
2.) y=-2+3x  
  
  
  
  
  
  
  
  
3.) y=-1x-3  
  
  
  
  
  
  
  
4.) y=-4x-12

Grace Garlatti                                                                                                          8th Grade Math   
  
July 9, 2010  
“Word Problems”  
  
Objective (s):  
The students will be able to solve algebra-related word problems.   
  
Set Induction:  
The teacher will pose the following question to the class:  
  
If 4 apples and 2 oranges equals $1 and 2 apples and 3 oranges equals $0.70, how much does each apple and each orange cost?   
  
The teacher will explain that the easiest way to solve algebraic word problems is to use “Let Statements.” This means the firs thing a student should do is state Let x=apples and Let y=oranges. She will guide the class through the questions after this is explained.   
  
Learning Activities:   
Partner Work:  
The students will work with a partner on one of four “Algebra: Word Problems” worksheets. Each pair will have different word problems to answer. When they have completed their worksheet they will create an algebraic word problem that can be related to their personal lives.   
  
Share Time:  
Each pair will review one or more of their questions with the entire class; they will also share the problem that they created. The students will become the teachers and explain each move they made to solve the problem step-by-step.   
  
Timeline:  
Set Induction: 7 minutes  
Partner Work: 15 minutes  
Share Time: 20 minutes  
Closure: 3 minutes  
  
Closure:  
The teacher will ask each student to come up with another situation in which algebra could be used to solve a problem. For example, they could say algebra could be used to determine how much an individual item cost if you know how many items were bought and the total cost.

Assessment:   
The teacher will collect homework and observe student participation during class.   
  
Homework:  
Friday! =)   
  
Materials:  
Pencils  
Paper  
Chalk  
Chalkboard  
“Algebra: Word Problems”